PRASHANT PRASAD KANTH

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EDUCATION

MS, Computer Science | *Rutgers University-New Brunswick (CGPA: 4.0)* **Sep 2021 - May 2023**

BE, Computer Science and Engineering | *Bangalore Institute of Technology (Percent: 77)* **Aug 2013 - Jun 2017**

PROFESSIONAL EXPERIENCE

Artrendex | New Jersey, US **Jun 2022 – Sep 2022**

Machine Learning Research Intern (stack: Python, PyTorch, OpenCV, Tensorboard, Numpy, Pandas, skimage)

- Improved reusability of data pipeline by generalising pre-processing and overriding PyTorch's Dataset class to reduce manual labor by 10%.
- Applied transfer learning technique on deep learning models like VGG, achieving 94% test accuracy in art classification.
- Researched on positional encoding options and explored 3D CNN variation of Resnet, 'R3D-18', for art classification.

Oracle | Bangalore, India **Jul 2017 - Jun 2021**

Cloud Consultant (stack: Oracle SQL, Relational Databases, Java, Python, sklearn, Gensim, NLTK, Oracle BI, MS Excel, XML)

- Managed end-to-end integration and report development, mitigating risk to ensure successful delivery.
- Built an error analysis tool by utilising a meta-classifier with SVM, GaussianNB and MultinomialNB achieving 92% accuracy on error classification, reducing manual error analysis by 75% during data migration.
- Developed over 50 SQL reports analysing data from multiple tables, providing insights into critical business functions.
- Remodelled Java automation program by integrating with REST APIs, reducing manual data migration effort by 20%.
- Conducted training sessions to equip over 40 new hires with the skills and knowledge to drive organizational success.

PROJECTS

Virtual Trial Room | (*stack:* *PyTorch, Flask, OpenCV, PilL, Mediapipe, NumPy, Javascript*) **Mar 2023 - Apr 2023**

- Performed hyperparameter tuning to train a virtual try-on network, enabling it to accurately warp a source garment onto a reference human body and synthesize photorealistic images.
- Created a streamlined pipeline for rapid model inference , incorporating pre-processing steps such as body segmentation and keypoints generation.
- Designed resilient Flask APIs to manage tailored GET and POST requests, and integrated with project frontend.

Patient Monitoring using Activity Recognition | (*stack:* *Flask, Keras, OpenCV, Mediapipe, Unity3D*) **Oct 2022 - Nov 2022**

- Trained CNN-LSTM and LSTM models to monitor patient's daily activities and generate activity distribution report.
- Created synthetic data, 50000 frames, for 6 different activities using Unity3D and leveraged mediapipe framework to extract 33 body keypoints for each frame as initial features.
- Experimented with pose-normalized distances between 18 pairs of selected keypoints as additional features to achieve 82.4% test classification accuracy on real-world activity videos.

Querying on Streaming Data | (stack: Python, Apache Spark, boto3, matplotlib**)** **Sep 2022 - Oct 2022**

- Reduced 30% pre-processing time on approx. 130GB (40M records) of data using MapReduce and saved significant storage space by writing data into parquet format.
- Designed a pipeline using Apache Spark in python to consume streaming data and provide real-time visualization on top scholarly works using matplotlib animation.

Text-Conditional Image Generation | (stack: Python, PyTorch, Hugging Face, OpenCV, NumPy**)** **Mar 2022 - May 2022**

- Implemented a Deep Convolutional GAN in multi-GPU setting to generate 256x256 images from textual descriptions.
- Employed 3 text encoders (DistilBERT, CLIP and char-CNN-RNN) to obtain text embeddings and compared their results.
- Improved model training by using 3 different methods: Label Smoothing, Label Noise and Wasserstein-Gradient Penalty.

Smart Health Prediction using Naive Bayes Classifier | (stack: *Java, JDBC, HTML, CSS, JavaScript*) **Feb 2017 - Jun 2017**

- Integrated backend and middleware to enable user classification into 3 disease categories using Naive Bayes.
- Supported in web development for data entry of new users and displaying collected statistics charts.

TECHNICAL SKILLS

Languages: Python, SQL, Java, MATLAB, C++, HTML, JavaScript **| IDEs:** VS Code, Jupyter Notebook, Spyder **| OS:** MacOS, Linux

Frameworks and Tools: PyTorch, sklearn, OpenCV, HuggingFace, NumPy, Pandas, NLTK, Gensim, PySpark, Flask, Git

CERTIFICATIONS

- NoSQL, Big Data, and Spark Foundations Specialization – Coursera | IBM **Feb 2023**
- Introduction to Machine Learning on AWS – Coursera | AWS **Jan 2023**
- Machine Learning – Coursera | Stanford Online **Jun 2022**
- Oracle Database SQL Certified Associate **Jul 2020**
- Oracle Cloud Infrastructure Foundations Certified Associate **Jul 2020**